Narrow QRS Tachycardia with VA block with Varying VV interval

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Introduction: Forty one year old male presented with recurrent paroxysmal palpitation for 7 months duration. Baseline ECG showed no pre-excitation. ECG during palpitations showed regular narrow QRS tachycardia with retrograde P in the tail of QRS suggestive of AVNRT. Echo showed structurally and functionally normal heart. Taken up for EPS and RF ablation.

Methods: On V Pacing VA conduction was concentric and decremental. On A pacing irregular narrow QRS tachycardia induced with VA block with variation in VV intervals.

Result: Differential diagnosis of this disorder includes: automatic junctional tachycardia (AJT), atrioventricular nodal reentry (AVNRT) with final upper common pathway block, concealed nodofascicular (ventricular) pathway (NF), or intra-Hisian reentry. Since VV interval varying so Nodofascicular pathway excluded. So either it is AVNRT or JT.

Conclusion: This irregular narrow QRS tachycardia with VA block suggest automatic Junctional tachycardia but This tachycardia was induced by programme electrical stimulation and terminated by overdrive ventricular pacing. On V pacing in Sinus Rhythm showed VA conduction concentric and Decremental suggest retrograde conduction through AV node. On A pacing dual AV nodal physiology present and leads to onset of this Irregular Tachycardia with VV interval from 330 msec to 400 msec. The above features suggest reentry as the cause of irregular tachycardia and VV variation is due to variation in conduction in the AV nodal reentrant Circuit. Since this tachycardia was non inducible after slow pathway ablation proves to be AVNRT.